



SEQUENCE LISTING

<110> Quint, Wilhelmus
Van Doorn, Leendert

<120> PROBES, METHODS AND KITS FOR DETECTION
AND TYPING OF HELICOBACTER PYLORI NUCLEIC ACIDS IN
BIOLOGICAL SAMPLES

<130> INNOG2.001C1

<140> 10/035,978
<141> 2001-12-21

<150> 09/284,725
<151> 1999-04-16

<150> EP 97870133.2
<151> 1997-09-09

<150> EP 96870131.8
<151> 1996-10-16

<160> 280

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<223> VAMSFc primer

<400> 24
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<210> 25
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<210> 26
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gcgagcgctc atacggtcaa 20

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gggytattgg tyagcatcac 20

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gcttagtrg ggytattgg 20

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<223> P1M1new vacA-derived probe

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ttgatackgg taatggtgg 19

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kggtaatggt ggtttcaaca 20

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<223> HpdiaS1 vacA-derived probe

<400> 35
catgcgcct tctttacaac cgt 23

<210> 36
<211> 23
<212> DNA
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<220>
<223> HpdiaS2 vacA-derived probe

<400> 36
catccgcct tttcacrac cgt 23

<210> 37
<211> 23
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<220>

<223> HpdiaS3 vacA-derived probe

<400> 37
catgccgctc ttttacaac cgt 23

<210> 38

<211> 23

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<223> HpdiaS4 vacA-derived probe

<400> 38
catgccgcct ttttacaac cgt 23

<210> 39

<211> 23

<212> DNA

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<223> HpdiaS5 vacA-derived probe

<400> 39
agtgcgcgcyt tttyacaac cgt 23

<210> 40

<211> 184

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tgccgcctt ttcacaacctg tgatcattcc agccattgtt ggggttatcg ctacaggcac 120
cgctgttagga acggtctcag ggcttcttag ttggggacta aaacaagccg aagaagccaa 180
taaa 184

<210> 41

<211> 199

<212> DNA

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<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature

<222> 10, 30, 37, 58, 85, 112

<223> n = A,T,C or G

<221> misc_feature

<222> 10, 30, 37, 58, 85, 112

<223> n = A,T,C or G

<400> 41

tcgcccctn gtttctctcg ctttagtagn agcatngtc agcatcacac cgcaacanag 60
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caccgctgta ggaacggctc cagggcttct tagttgggta ctaaaacaag ccgaagaagc 180
caataaaacc ccagataaa 199

<210> 42
<211> 227
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aagtcatgcc gccttttya craccgtat cattccagcc attgttggrrg gtatcgctac 120
aggcactgct gtaggaacgg tctcagggtct tcttagttgg ggrctcaaac aagccgaaga 180
agcsaataaa accccrgata aacccgataa agtttggcgc attcaag 227

<210> 43
<211> 176
<212> DNA
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<220>
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<400> 43
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atgccgcctt tttcacaacc gtgatcattt cagccattgt tggaggtatc gctacaggtg 120
ctgctgttagg aacggtctca gggcttctt gttggggct caaacaagcc gaagaa 176

<210> 44
<211> 185
<212> DNA
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<223> Helicobacter pylori vacA nucleic acid sequence

<400> 44
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atgccgcctt tttcacaacc gtgatcattt cagccattgt tggaggtatc gctacagggcg 120
ctgctgttagg aacggtctca gggcttctt gctggggct caaacaagcc gaagaagcca 180
ataaa 185

<210> 45
<211> 204
<212> DNA
<213> Artificial Sequence

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<223> Helicobacter pylori vacA nucleic acid sequence

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ggcgctgctg taggaacggt ctcagggtt cttagctgg ggctcaaaca agccgaacaa 180
gccaataaaag ccccgacaa accc 204

<210> 46

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aggcgctgct gtaggaacgg tttcagggct tcttggctgg gggctaaaac aagccgaaga 180
agccaataaa accccagata aaccgcga 207

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agccaataaa accccggaca aaccgcga 207

<210> 48
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aggcgctgct gtaggaacgg tctcagggct tcttagctgg gggctaaaac aagccgaaga 180
agccaataaa accccagata aaccgcga 207

<210> 49
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taaagcc 187

<210> 51
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ctgttagaac ggttcaggg cttcttagct ggggctcaa acaagccgaa gaagccaata 180
aaaccccaaga taa 193

<210> 52
<211> 196
<212> DNA
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<223> Helicobacter pylori vacA nucleic acid sequence

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ccgctgttagg aacggttca gggcttta gctggggct caaacaagcc gaacaagcca 180
ataaagcccc ggacaa 196

<210> 53
<211> 131
<212> DNA
<213> Artificial Sequence

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<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 87, 106, 107, 108, 109
<223> n = A,T,C or G

<221> misc_feature
<222> 87, 106, 107, 108, 109
<223> n = A,T,C or G

<400> 53
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agtcatgccc ccttttacac gaccgttac attccagcca ttgttnnnng tatcgctaca 120
ggcaccgctg t 131

<210> 54
<211> 185
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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ggcgctgctg taggaacggt ctcaggcctt cttagttggg gactcaaaca agccgaagaa 180
gcgaa 185

<210> 55
<211> 201
<212> DNA
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<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 87, 143, 165
<223> n = A,T,C or G

<221> misc_feature
<222> 87, 143, 165
<223> n = A,T,C or G

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ggcacccgctg taggaacggt ctnaggcctt ytttagttggg gactnwaaca agccgaagaa 180
gccaataaaa cccccggataaa a 201

<210> 56
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<221> misc_feature
<222> 26, 27, 82
<223> n = A,T,C or G

<221> misc_feature
<222> 26, 27, 82
<223> n = A,T,C or G

<400> 56
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tgctgttagga acggtctcag ggcttcttag ctgggggctc aaacaagccg aacaagccaa 180
taaagcc 187

<210> 57
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<212> DNA
<213> Artificial Sequence

<220>
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tgctgttagga acggtctcg ggcttcttag ctgggggctc aaacaagccg aagaagcgaa 180
taaaaacc 187

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tgccgccttt ttccacaaccc tgatcattcc agccattttt ggggttatcg ctacaggcac 120
cgctgttagga acggtctcg ggcttcttag ctggggactc aaacaagccg aagaagcgaa 180
taaaaacc 187

<210> 59
<211> 185
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<220>
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<221> misc_feature
<222> 27, 34, 53, 55, 76, 82, 160
<223> n = A,T,C or G

<221> misc_feature
<222> 27, 34, 53, 55, 76, 82, 160
<223> n = A,T,C or G

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taaaa 185

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<220>
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tcattccagc cattgttggg ggtatcgcca caggcaccgc tgttaggaacg gtctcagggc 120
ttcttagttt gggactcaa caagccgaag aagcgaataa aaccggat taaacccgat 180
aaagtttggc gcattcaag 199

<210> 61
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tttcacaac cgtgatcatt ccagccattg ttgggggtat cgctacaggc gctgctgttag 120
gaacggctc agggcttctt agctgggggc tcaaacaagc cgaagaagcg aataaaaaccc 180
cagataaa 188

<210> 62
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aggcaccgtt gtaggaacgg tctcagggt tcttagttgg ggactcaaac aagccgaaga 180
agcgaataaa accccagtagt aaaccc 206

<210> 63
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<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 143, 165
<223> n = A,T,C or G

<221> misc_feature
<222> 143, 165
<223> n = A,T,C or G

<400> 63
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ggcgctgctg taggaacggt ctnagggtt ytagctggg ggctnwaaca agccgaagaa 180
gcgaataaaa ccccagataaa accccga 206

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<220>
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agtcatgccg cctttttcac gaccgtgatc attccagcca ttgttgggg tatcgccaca 120
ggcgctgctg taggaacggt ctcagggtt cttagctggg ggctcaaaca agccgaacaa 180
gccaataaaag cccccggacaa a 201

<210> 65
<211> 197

<212> DNA
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<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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atggcgccctt tttcacaacc gtgatcattc cagccattgt tgggggtatc gctacaggca 120
ccgctgttagg aacggtctca gggcttctta gttggggact caaacaagcc gaagaagcga 180
ataaaacccc agataaa 197

<210> 66
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<220>
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agtcatgccc ccttttcac gaccgtgatc attccagcca ttgttgggg tatcgccaca 120
ggcaccgctg taggaacggt ctcagggctt cttagttggg gactcaaaca agccgaagaa 180
gcgaataaaa cccccagataaa a 201

<210> 67
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<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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gagagtcgcg ccttttcac aaccgtgatc attccagcca ttgttgggg tatcgccaca 120
ggcactgctg taggaacggt ctcagggctt cttagttggg gactcaaaca agccgaagaa 180
gcgaataaaa cccca 195

<210> 68
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aggcgctgct gtaggaacgg tttcagggct tcttagctgg gggctcaaac aagccgaaca 180
agccaataaaa gccccg 196

<210> 69
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<220>
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<400> 69
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gcgagagtgc cgccctttt acaaccgtga tcattccagc cattgttggg ggtatcgcta 120
caggcgtgc ttaggaacg gtctcaggc ttcttagtgc ggggctcaaa caagccgaac 180
aagccaataa agcccc 196

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<220>
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caatcgccct attatctctc tcgctctagt ggggtgtta atgggtaccg aactagggc 60
taacacgcca aacgatccca tacacagcg aagtgcgcct ttttacaa cctgtatcat 120
tccagccatt gtgggggtt tcgctacagg cgctgctgt ggaacggttt caggcgttct 180
tagctggggg ctcaaacaag ccgaacaagc caataaagcc ccggacaaac cc 232

<210> 71
<211> 228
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 71
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aacacgccaa acgatcccat acacagcgag agtcgcgcct ttttacaaac cgtgtatcatt 120
ccagccattt gtgggggtat cgctacaggc gctgctgttag gaacggtctc agggcttctt 180
agctggggc tcaaacaagc cgaacaagcc aataaagccc cggacaaa 228

<210> 72
<211> 228
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 72
aatcgcccta ttatctctc cgcttagtg ggggtttaa tgggcaccga actagggct 60
aacacgccaa acgatcccat acacagcgag agtcgcgcct ttttacaaac cgtgtatcatt 120
ccagccattt gtgggggtat cgctacaggc gctgctgttag gaacggtctc agggcttctt 180
agctggggc tcaaacaagc cgaacaagcc aataaagccc cggataaa 228

<210> 73
<211> 233
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 73
aatcgcccta ttatctctc cgcttagag ggggtgttaa taggcaccga actagggct 60
aacacgccaa atgatcccat acacagcgag agtcgcgcct ttttacaaac cgttattatt 120
ccagccattt gtgggggtat cgctacaggc gctgctgttag gaacggtctc agggcttctt 180

agctgggggc tcaaacaaggc cgaacaaggcc aataaaggccc cggataaacc cga

233

<210> 74

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 74

ttaaaaggtg gatgctcata cagctaattt taaaggtatt gatacggta atgggtgttt 60
caacaccta gatttttagtg gtgttacagg taaggtcaat atcaacaaggc tcatcacaggc 120
ttccactaat gtggccgtta aaaacttcaa cattaatgaa ttgatgttta aaaccaatgg 180
tgtgagtgtg ggggaataaca ctcatttttag cgaagatata ggcagtcaat cgcgcatcaa 240
taccgtgcgt ttggaaactg gcactaggtc aatctttct ggggtgtta aatttaaagg 300

<210> 75

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 75

ttaaaaggtg gatgctcata cagctaattt taaaggtatt gatacggta atgggtgttt 60
caacaccta gatttttagtg gtgttacagg taaggtcaat atcaacaaggc tcattacggc 120
ttccactaat gtggccgtta aaaacttcaa cattaatgaa ttgatgttta agaccaatgg 180
tgtgagtgtg ggggaataaca ctcatttttag cgaagatata ggcagtcaat cgcgcatcaa 240
taccgtgcgt ttggaaactg gcactaggtc aatctttct ggggtgtca aatttaaagg 300

<210> 76

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 76

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caacacctt gatttttagtg gcgttacaga caaagtcaat atcaacaaggc tcatcacaggc 120
ttccactaat gtggccattt aaaacttcaa cattaatgaa ttgatgttta agaccaatgg 180
tgtgagtgtg ggggaataaca ctcatttttag cgaagatata ggcagtcaat cgcgcatcaa 240
caccgtgcgt ttagaaactg gcactaggtc aatctttct ggggtgtca aatttaaagg 300

<210> 77

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 77

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caacaccta gatttttagtg gtgttacagg taaggtcaat atcaacaaggc tcatcacaggc 120

ttccactaat gtggccgcta aaaacttcaa cattaatgaa ttgattgtta aaaccaatgg 180
ggtgagtgtg ggggaataaca ctcattttag cgaagatata ggcagtcaat cgcgcatcaa 240
taccgtgcgt ttggaaactg gcactaggc aatctattct ggcggtgtta aatttaaagg 300

<210> 78
<211> 300
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 78
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caacaccta gatttttagtg gtgttacagg taaggtcaat atcaacaagc tcacacaggc 120
ttccactaat gtggccgcta aaaacttcaa cattaatgaa ttgattgtta aaaccaatgg 180
ggtgagtgtg ggggaataaca ctcattttag cgaagatata ggcagtcaat cgcgcatcaa 240
taccgtgcgt ttggaaactg gcactaggc aatctattct ggcggtgtta aatttaaagg 300

<210> 79
<211> 300
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 79
tttaaaaagtg gatgctcata cagctaattt taaaggtatt gatactggta atggtgtt 60
caacaccta gatttttagtg gtgttacaaa caaagtcaat atcaacaagc tcattacaggc 120
ttccactaat gtggccgttaaaacttcaa cattaatgaa ttgttgttta agattaatgg 180
ggtgagtgtg ggggaataaca cttatTTAG cgaagatata ggcagtcaat cgcgcatcaa 240
caccgtgcgt ttggaaactg gcactaggc aatctattct ggcggtgtta aatttaaagg 300

<210> 80
<211> 300
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 80
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caacaccta gatttttagtg gtgttacagg taaggtcaat atcaacaagc tcacacggc 120
ttccactaat gtggccgttaaaacaacaa cattaatgaa ttggtgttta aaaccaatgg 180
gataagtgtg ggggaataaca ctcattttag cgaagatata ggcagtcaat cgcgcatcaa 240
taccgtgcgt ttggaaacag gcactaggc aatctttct ggggtgtca aatttaaag 300

<210> 81
<211> 300
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 81
tttaaaagtg gatgctcata cagctaattt taaaggtatt gatacggta atggtggtt 60
caacacctta gatTTtagtg gtgtacagg taaggtcaat atcaacaagc tcattacggc 120
ttccactaat gtggccgtta aaaacttcaa catTAATGAA ttgttggtt agaccaatgg 180
ggtgagtgtg ggggaatACA ctcattttAG cgaagatATA ggcagtcaat cgcgcatcaa 240
caccgtgcgt ttggaaACTG gcactAGTC aatctttCTC ggggtgtca aatttaaaaag 300

<210> 82
<211> 300
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 82
tttaaaagtg gatgctcata cagctaattt taaaggtatt gatacggta atggtggtt 60
caacacctta gatTTtagtg gtgtacagg taaggtcaat atcaacaagc tcattacacgc 120
ttccactaat gtggccgtta aaaacttcaa catTAATGAA ttgattgtt aaaccaatgg 180
gataagtgtg ggggaatACA ctcattttAG cgaagatATA ggaagtcaat cgcgcatcaa 240
taccgtgcgt ttggaaACTG gcactAGTC aatctttCTC ggggtgtt aatttaaagg 300

<210> 83
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 83
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gaatttaaga gtGAATGGCC atagcgctca ttttaaaaat attgatGCCA gcaagagcga 120
taacgggcta aacactAGCG ctTGgattt cagcggcgtt acagacAAAG tcaatatCAA 180
caagctcaCT acatctGCCA ctaatgtgaa cgttAAAAAC tttgacgtt aggaatttggT 240
ggttacaACC CGTGTTCAGA GTTTGGCA atacactatt ttggcggAAA atataggcga 300
taagtctcgc attgggtgtcg tgagtttgcA aacgggatAT agcccgccT attctggggg 360
cgTTactttt AAAAG 375

<210> 84
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 84
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gaatttaaga gtGAATGGCC atagcgctca ttttaaaaat attgatGCCA gtaagagcga 120
taacgggcta aacactAGTG ctTGgattt tagcggcgtt acagataAAAG tcaatatCAA 180
caagctcaCT acatctGCCA ctaatgtgaa cgttAAAAAC tttgacatta aggaatttggT 240
ggttacaACC CGAGTTCAAA GTTTGGCA atacactatt ttggcggAAA atataggcga 300
taagtctcgc attgggtgtcg tttagttgcA aacgggatAT agcccgccT attctggggg 360
cgTTactttt AAAAG 375

<210> 85
<211> 374
<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 85

ttaagagt gatgctata cagttattt taatggcaat atttatctgg gaaaatccac 60
gaatttaaga gtgaatggcc atagcgctca tttaaaaat attgatgcca gtaagagcga 120
taacgggcta aacactacca ctttgattt cagcggcgtt acagataaag tcaatatcaa 180
caagctca actatctgcca ctaatgtgaa cttaaaaac tttgacatta aggaattagt 240
ggttacaacc cgagttcaga gttttggca atacactatt tttggcggaa atataggcga 300
taagctgcac attgggttcg ttagttgca aacggatata gcccagcct attctggggg 360
cgttactttt aaag 374

<210> 86

<211> 375

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 86

ttaagagt gatgctata cagttattt taatggcaat atttatctgg gaaaatccac 60
gaatttaaga gtgaatggcc atagcgctca tttaaaaat attgatgcca gtaagagcga 120
taacgggcta aacactagct ctttgattt cagcggcgtt acagacaaag tcaatatcaa 180
caagctca actatctgcca ctaatgtgaa cttaaaaac tttgacatta aggaatttgt 240
ggttacaacc cgcggtcaga gttttggca atacactatt tttggcggaa atataggcga 300
taagctcgc attgggttcg ttagttgca aacggatata gcccagcct attctggggg 360
cgttactttt aaag 375

<210> 87

<211> 365

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 87

gatgctata cagttattt taatggcaat atttatctgg gaaaatccac gaatttaaga 60
gtgaatggcc atagcgctca tttaaaaat attgatgcca gtaagagcga taacgggcta 120
aacactagct ctttgattt yagcggcgtt acagayaaag tcaatatcaa caagctca 180
acatctgcca ctaatgtgaa cttaaaaac tttgacatta aggaattagt ggttacaacc 240
cgagttcaaa gttttggca atacactatt tttggcggaa atataggcga taagctcgc 300
attgggttcg ttagttgca aacggatata gcccagcct attctggggg cgttactttt 360
aaag 365

<210> 88

<211> 375

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 88

ttaagaggg gatgctata cagttattt taatggcaat atttatttgg gaaaatccac 60
gaatttaaga gtgaatggcc atagcgctca tttaaaaat attgatgcca gtaagagcga 120
taacgggcta aacactagct ytttgattt tagcggcgtt acagayaaag tcaatatcaa 180
caagctca actatctgcca ctaatgtgaa crttaaaaaac tttgayatta aggaatttgt 240

ggttacaacc cgagttcaaa gttttggca atacactatt tttggcgaaa atataggcga 300
tmagtctcgc attgggtcg tttagttgca aacgggatat agcccrgcct attctgggg 360
cgttactttt aaaag 375

<210> 89
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 89
tttaagcggt gatgctata cagttatatt taatggtaat atttatctgg gaaaatccac 60
gaatttaaga gtgaatggcc atagcgctca tttaaaaat attgatgcca caaagagcga 120
taacgggcta aacactagcg ctttgattt cagcggcggtt acagataaag tcaatata 180
caagctact acatctgccca ctaacgtgaa cattaaaaac tttgacatta aggaatttgt 240
ggttacaacc cgagttcaaa gttttggca atacactatt tttggcgaaa atataggcga 300
taagtctcgc attgggtcg tgagttgca aacgggatat agcccrgcct attctgggg 360
cgttactttt aaaag 375

<210> 90
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 90
tttaagagtg gatgctata cagttatattt taatggcaat atttatctgg gaaaatccac 60
gaatttaaaa gtgaatggcc atagcgctca tttaaaaat attgatgcca gtaagagcga 120
taatggctca aacactagtg ctttgattt gagcggcggtt acagacaaag tcaatata 180
caagctact acagctgccca ctaatgtgaa cattaaaaac tttgacatta aggaatttgt 240
ggttacgacc cgtgttcaga gttttggca atacactatt tttggcgaaa atataggaga 300
tcaatcgccg attgggtcg tttagttgca aactggctat agcccrgcct attctgggg 360
cgttactttt aaaag 375

<210> 91
<211> 375
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 91
cttaagagtg gatgctata cagttatattt taatggcaat atttatctgg gaaaatccac 60
gaatttaaga gtgaatggcc atagcgctca tttaaaaat attgatgcta gtaagagcga 120
taacgggcta aacactagcg ctttgattt tagcggcggtt acagacaaag tcaatata 180
caagctact acatctgccca ctaatgtgaa cattaaaaac tttgacatta aggaatttgt 240
ggttacaacc cgagttcaaa gttttggca atacactatt tttggcgaaa atataggcga 300
taagtctcgc attgggtcg tgagttgca aacgggatat agcccrgcct attctgggg 360
cgttactttt aaaag 375

<210> 92
<211> 449
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori cagA nucleic acid sequence

<400> 92

atgactaacg aaaccattaa ccaacaacca caaaggagaag cggttttaa cccgcagcaa 60
tttatcaata atcttcaagt agctttctt aaagttgata acgctgtcgc ttcatacgat 120
cctgatcaaa aaccaatcgt tgataagaac gatagggata ataggcaagc ttttgatgga 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatTTT cagactttat caataagagc aatgatttaa tcaacaaaga cgctctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgtta ccgaattttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acacccgatc gatccgaaat 420
tttatggaaa atatcataca accccctat 449

<210> 93

<211> 449

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori cagA nucleic acid sequence

<400> 93

atgactaacg aaaccattaa ccaacaacca caaaccgagaag cggttttaa cccgcagcaa 60
tttatcaata atcttcaagt agctttctt aaagttgata acgctgtcgc ttcatacgat 120
cctgatcaaa aaccaatcgt tgataagaac gatagggata acaggcaagc ttttgatgga 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatTTT cagactttat caataagagc aatgatttaa tcaacaaaga cgctctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgtta ccgaattttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acacccgatc gatccgaaat 420
tttatggaaa atatcataca accccctat 449

<210> 94

<211> 449

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori cagA nucleic acid sequence

<400> 94

atggctaacg aaactattaa ccaacaacca caaaccgagaag cggttttaa cccgcagcaa 60
tttatcaata atcttcaagt agctttctt aaagttgata acgctgtcgc ttcatacgat 120
cctgatcaaa aaccaatcgt tgataagaac gatagggata acaggcaagc ttttgatgga 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatTTT cagactttat caataagagc aatgatttaa tcaacaaaga cgctctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgtta ccgaattttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acacccgatc gatccgaaat 420
tttatggaaa atatcataca accccctat 449

<210> 95

<211> 449

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori cagA nucleic acid sequence

<400> 95

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tttatcaata atcttcaagt ggctttctt aaagttgata acgctgtcgc ttcatacgat 120
cctgatcaaa aaccaatcgt tgataagaac gatagggata ataggcaagc ttttgatgga 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240

cagtatttt cagacttat caataagagc aatgatttaa tcaacaaaga cgcttcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttggg atcagcgta cgcgaatttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acaccgatc gatccgaaat 420
ttcatggaaa atatcataca accccctat 449

<210> 96
<211> 449
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori cagA nucleic acid sequence

<400> 96
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tttatcaata atcttcaagt ggctttctt aaagttgata acgctgtcgc ttcatacgat 120
cctgatcaaa aaccaatcgt tgataagaac gataggata acaggcaagc ttttgatgga 180
atctcgcaat taagggaga atactcaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatttt caaactttat caataagagc aatgatctaa tcaacaaaga caatctcatt 300
gatgtagaat ctcccaaaaa gagcttcag aaatttgggg atcagcgta cgcgaatttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acaccgatc gatccgaaat 420
tttatggaaa atatcataca accccctat 449

<210> 97
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<212> DNA
<213> Artificial Sequence

<220>
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<400> 97
atgactaacg aaaccattaa ccaacaacca caaaccgaag cggttttaa cccgcagcaa 60
tttatcaata atcttcaagt agctttctt aaagttgata acgctgtcgc ttcatacgat 120
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atctcacaat taagggagga atactcaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatttt cagactttat cgataagagc aacgatttaa tcaacaaaga cgcttcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgta cgcgaatttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acaccgatc gatccgaaat 420
tttatggaaa atatcataca accccctat 449

<210> 98
<211> 449
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori cagA nucleic acid sequence

<400> 98
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tttatcaata atcttcaagt ggctttctt aaagttgata acgctgtcgc ttcatacgat 120
cctgatcaaa aaccaattat tgataagaac gataggata acaggcaagc ttttgatgga 180
atctcgcaat taagggaga atattcaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatttt cagactttat cgataagagc aatgatttaa tcaacaaaga caatctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgta cgcgaatttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acaccgatc gatccgaaat 420
tttatggaaa atatcataca accccctat 449

<210> 99
<211> 449

<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori cagA nucleic acid sequence

<400> 99
atgactaacg aaaccattaa ccaacaacca caaaccgaag cggcttttaa cccgcagcaa 60
tttataata atcttcagg agctttctt aagttgata atgctgtcgc ttcatacgat 120
tctgatcaaa aaccaatcat tgataagaac gatagggata acaggcaagc ttttgataga 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatttt cagactttat cgataagagc aacgatttaa tcaacaaaga caatctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgta ccgaattttc 360
acaagttggg tgtccccatca aaatgatccg tctaaaatca acacccgatc gatccgaaat 420
tttatggaaa atatcatacaca accccctat 449

<210> 100
<211> 449
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori cagA nucleic acid sequence

<400> 100
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tttattaata atcttcagg agctttctt aagttgata acgctgtcgc ttcatttgat 120
cctgatcaaa aaccaatcgt tgataagaat gatagggata acaggcaagc ttttgatgg 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatttt cagactttat caataagagc aatgatttaa tcaacaaaga cgctctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgta ccgaattttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acacccgatc gatccaaat 420
tttatggaaa atatcatacaca accccctat 449

<210> 101
<211> 449
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori cagA nucleic acid sequence

<400> 101
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tttataata atcttcagg ggctttctt aagttgata acgctgtcgc ttcatttgat 120
cctgatcaaa aaccaatcgt tgataagaac gatagggata acaggcaagc ttttgatgg 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
cagtatttt cagactttat caataagagc aatgatttaa tcaacaaaga cgctctcatt 300
gatgtagaat ctcccacaaa gagcttcag aaatttgggg atcagcgta ccgaattttc 360
acaagttggg tgtccccatca aaacgatccg tctaaaatca acacccgatc gatccgaaat 420
tttatggaaa atatcatacaca accccctat 449

<210> 102
<211> 449
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori cagA nucleic acid sequence

<400> 102

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cctgatcaaa aaccaatcg t gataagaac gataggata ataggcaggc ttttgatgga 180
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atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
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gatgtagaat ctccacaaa gagcttcag aaatttggg atcagcgta ccgaatttc 360
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<210> 104
<211> 449
<212> DNA
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<220>
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cctgatcaaa aaccaatcg t gataagaac gataggata ataggcaagc ttttgatgga 180
atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctac caaaaagaat 240
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gatgtagaat ctccacaaa gagcttcag aaatttggg atcagcgta ccgaatttc 360
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<220>
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atctcgcaat taagggaga atactccaat aaagcgatca aaaatcctgc caaaaagaat 240
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gatgtagaat ctccacaaa gagcttcag aaatttggg atcagcgta ccaaatttc 360
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449

<210> 106

<211> 449

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<220>

<223> Helicobacter pylori cagA nucleic acid sequence

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atctcgacgc taagggagga attcgtaat aaagcgatca aaaatcctgc caaaaagaat 240
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caagcttttg agaaaatctc gcagctaagg gaggaattcg ctaataaagc gatcaaaaat 240
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<210> 108

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<212> DNA

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<223> Helicobacter pylori cagA nucleic acid sequence

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gtctcttcat ttgatcctga tcaaaaacca atcggtgata agaatgatag ggataacagg 180
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caagctttg agaaaatctc gcaactaagg gaagaatacg	ccaataaagc gatcaaaaat	240
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aaagacaatc tcattgctgt agattttctt gtagagact	ttaagaaatt tggggatcag	360
cgttacccaa tttttacgag ttgggtgtcc cttcaaaaag	atccgtctca aatcaacacc	420
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<210> 110

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<212> DNA

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gtcgcttcat ttgatcctga tcaaaaacca atcggtgata	agaatgatag ggataacagg	180
caagctttg agaaaatctc gcaactaagg gaagaatacg	ccaataaagc gatcaaaaat	240
cctgccaaaa agaatcagta ttttcagac tttatcaata	agaccaatga tttgatcaac	300
aaagacaatc tcattgctgt agattttctt gtagatagct	ttaagaaatt tggggatcag	360
cgttacccaa tttttacgag ttgggtgtcc cttcaaaaag	atccgtctaa aatcaacacc	420
caacaatcc gaaattttat ggaaaatatac atacaacccc	ctat	464

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gtcgcttcat ttgatcccgaa tcaaaaacca atcggtgata	agaatgatag ggataacagg	180
caagctttg agaaaatctc gcaactaagg gaagaatacg	ccaataaagc gatcaaaaat	240
ccccccaaaa agaatcagta ttttcagac tttatcaata	agaccaatga tttgatcaac	300
aaagacaatc tcattgctgt agattttctt gtagagact	ttaagaaatt tggggatcag	360
cgttacccaa tttttacgag ttgggtgtcc cttcaaaaag	atccgtctaa aatcaacacc	420
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gttgcttcat ttgatcccgaa tcaaaaacca atcggtgata	agaatgatag ggataacagg	180

caagctttg agaaaatctc gcaactaagg gaagaatacg ccaataaagc gatcaaaaat 240
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caagctttt agaaaatctc gcaactaagg gaagaatacg ccaataaagc gatcaaaaat 240
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aaagacaatc tcattgtgt agattctcc gtagatagct ttaagaaatt tggggatcag 360
cgttaccaa ttttacgag ttgggtgtcc cttcaaaaag atccgtctca aatcaacacc 420
cgacaaatcc gaaattttat ggaaaatatac atacaacccc ctat 464

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cgttaccaa ttttacgag ttgggtgtcc cttcaaaaag atccgtctaa aatcaacacc 420
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cattgttggg gg 132

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cattgttggg gg 132

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tgccgccttt ttacgaccg tgatcattcc agccattgtt ggggg 105

<210> 151
<211> 105
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<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 151
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tgccgcctt ttcacgaccg tgatcattcc agccattgtt ggggg 105

<210> 152
<211> 105
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 152
cccttagtt tctctcggtt tagcaggagc gttgattgc gccataccgc aacaaagtca 60
tgccgcctt ttcacaaccg tgatcattcc agccattgtt ggggg 105

<210> 153
<211> 105
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 153
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tgccgcctt ttcacgaccg tgatcattcc agccattgtt ggggg 105

<210> 154
<211> 105
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 27, 34, 53, 55, 76, 82
<223> n = A,T,C or G

<221> misc_feature
<222> 27, 34, 53, 55, 76, 82
<223> n = A,T,C or G

<400> 154
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tgccgcctt ttcacnaccg tnatcattcc agccattgtt ggggg 105

<210> 155
<211> 105
<212> DNA
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<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 155
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tgccgccttt ttcacaaccg tgatcattcc agccatttg 105

<210> 156
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 156
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tgccgccttt ttcacaaccg tgatcattcc agccatttg 105

<210> 157
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<212> DNA
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<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 157
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tgccgccttt ttcacaaccg tgatcattcc agccatttg 105

<210> 158
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 158
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tgccgccttt ttcacaaccg tgatcattcc agccatttg 105

<210> 159
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 159
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tgccgccttt ttcacgaccg tgatcattcc agccatttg 105

<210> 160
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 160

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tgccgccttt ttcacgaccg tgatcattcc agccattttt ggggg 105

<210> 161
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 161
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tgccgccttt ttcacaaccg tgatcattcc agcvatttg gggag 105

<210> 162
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 162
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tgccgccttt ttcacgaccg tgatcattcc agccattttt ggggg 105

<210> 163
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 163
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tgccgccttt ttcacgaccg tgatcattcc agccattttt ggggg 105

<210> 164
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 164
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tgccgccttt ttcacgaccg tgatcattcc agccattttt ggggg 105

<210> 165
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 165
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tgccgcctt ttcacgaccg tgatcattcc agccattgtt ggggg 105

<210> 166
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 166
cccttagtt tctctcgtt tagcaggagc gttgattagt gccataccgc aagagagtca 60
tgccgcctt ttcacaaccg tgatcattcc arccattgtt ggggg 105

<210> 167
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 167
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tgccgcctt ttcacaaccg taatcattcc agccattgtt ggggg 105

<210> 168
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 168
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tgccgcctt ttcacgaccg taatcattcc agccattgtt ggggg 105

<210> 169
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 82
<223> n = A,T,C or G

<221> misc_feature
<222> 82
<223> n = A,T,C or G

<400> 169
cccttagtt tctctcgtt tagcaggagc gttgattagc gccataccgc aagagagtca 60
tgccgcctt ttcacaaccg tnatcattcc agccattgtt ggggg 105

<210> 170
<211> 105
<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 170
ccctttggtt tctctcggtt tagcaggagc gttgatttc tccataccgc aagagagtca 60
tgccgccttt ttccacaccgg tgatcattcc agccattttt ggggg 105

<210> 171
<211> 105
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 171
ccctttggtt tctctcggtt tagcaggagc gttgatttc tccataccgc aagagagtca 60
tgccgccttt ttccacaccgg tgatcattcc agccattttt ggggg 105

<210> 172
<211> 105
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 172
ccctttggtt tctctcggtt tagcaggagc gttgatttc tccataccgc aagagagtca 60
tgccgccttt ttccacaccgg tgatcattcc agccattttt ggggg 105

<210> 173
<211> 105
<212> DNA
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<220>

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<400> 173
ccctttggtt tctctcggtt tagcaggagc gttgatttc tccataccgc aagagagtca 60
tgccgccttt ttccacaccgg tgatcattcc agccattttt ggggg 105

<210> 174
<211> 105
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 174
cccttttagtt tctctcggtt tagcaggagc gttgatttc tccataccgc aagagagtca 60
tgccgccttt ttccacaccgg tgatcattcc agccattttt ggggg 105

<210> 175
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 26, 27
<223> n = A,T,C or G

<221> misc_feature
<222> 26, 27
<223> n = A,T,C or G

<400> 175
cccttagtt tctctcgttt tagcannagc gttgattgc rccataccgc aagagagtca 60
tgccgccttt ttacaaccg tgatcattcc agccattgtt ggggg 105

<210> 176
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 82, 101, 102, 103, 104
<223> n = A,T,C or G

<221> misc_feature
<222> 82, 101, 102, 103, 104
<223> n = A,T,C or G

<400> 176
cccttagtt tctcttgttt tagcaggagc gttgattgc gccataccgc aacaaagtca 60
tgccgccttt ttacgaccg tnatcattcc agccattgtt nnng 105

<210> 177
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 177
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tgccgccttt ttacgaccg tgatcattcc agccattgtt ggggg 105

<210> 178
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 178
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tgccgccttt ttacacaaccg tgatcattcc agccattgtt ggggg 105

<210> 179

<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 179
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tgccgcctt ttcacaaccg tgatcattcc agccattgtt ggggg 105

<210> 180
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 180
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tgccgcctt ttcacaaccg tgatcattcc agccattgtt ggagg 105

<210> 181
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 181
ccctctggtt tctctcgctt tagtaggagc attggtcagc atcacaccgc aacaaagtca 60
tgccgcctt tttacaaccg tgatcattcc agccattgtt ggagg 105

<210> 182
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 182
ccctttggtt tctctcgctt tagtaggagc attggtcagc atcacaccgc aacaaagtca 60
tgccgcctt ttcacgaccg tgatcattcc agccattgtt ggggg 105

<210> 183
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 183
ccctctggtt tctcttgctt tagtaggagc gttagtcagc atcacaccgc aacaaagtca 60
tgccgcctt ttcacaaccg tgatcattcc agccattgtt ggggg 105

<210> 184
<211> 105

<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 184
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tgccgccttt ttccacaaccg tgatcattcc agccattgtg ggggg 105

<210> 185
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 185
cccttagtt tctcttgctt tagtaggagc attggtcagc atcacaccgc aacaaagtca 60
tgccgccttt ttccacaaccg tgatcattcc agccattgtt ggggg 105

<210> 186
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<221> misc_feature
<222> 7, 27, 34, 55, 82
<223> n = A,T,C or G

<221> misc_feature
<222> 7, 27, 34, 55, 82
<223> n = A,T,C or G

<400> 186
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tgccgccttt ttccacaaccg tnatcattcc agccattgtt ggggg 105

<210> 187
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 187
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tgccgccttt attacaaccg tgatcattcc agccattgtt ggggg 105

<210> 188
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 188
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tgccgcctt ttacaaccg tgattattcc agccattgtg ggggg 105

<210> 189
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 189
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tgccgcctt ttacaaccg tgattattcc agccattgtg ggggg 105

<210> 190
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 190
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tgccgcctt ttacaaccg tgattattcc agccattgtg ggggg 105

<210> 191
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 191
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tgccgcctt ttacaaccg tgattattcc agccattgtg ggggg 105

<210> 192
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
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<400> 192
ccctytggtt tctcttgctt tagtaggagc attgrttagy rycayaccgc aacaaagtca 60
tgccgcctt ttyacraccg tgatcattcc agccattgtt grrgg 105

<210> 193
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 193
cccttattatc tctctcgctt tagtaggagc attggtcagc atcacaccgc aacaaagtca 60
tgccgccttt ttcaacaaccg tgttcattcc agccattgtt ggggg 105

<210> 194
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 194
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agagtgaatg gccatagcgc tcattttaaa aatattgtat ccacaaagag cgataacggg 120
ctaaacacta gcaactttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccaactaatgt gaacattttaaa aactttgaca ttaaggaaatt agtggttacg 240
acccgtgttc agagttttgg gcaatacact atttttggcg aaaatataagg cgataagtc 300
cgcattgggtg tcgttagttt gcaaactggc tatagccccgg cctattctgg gggcgttact 360
tt 362

<210> 195
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 195
gtggatgctc atacagctta ttttaatggc aatatttatac tggaaaatc cacgaattta 60
agagtgaatg gccatagcgc tcattttaaa aatattgtat ccacaaagag cgataacggg 120
ctaaacacta gtgtttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccaactaatgt gaacattttaaa aactttgaca ttaaggaaatt agtggttaca 240
acccgtgttc agagttttgg gcaatacact atttttggcg aaaatataagg cgataagtc 300
cacattgggtg tcgttagttt gcaaacggga tatagccccgg cctattctgg gggcgttact 360
tt 362

<210> 196
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 196
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agagtgaatg gccatagcgc tcattttaaa aatattgtat ccacaaagag cgataacggg 120
ctaaacacta gggctttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccaactaatgt gaacgtttaaa aactttgaca ttaaggaaatt ggtggttaca 240
acccgagttc aaagttttgg gcaatacact atttttggcg aaaatataagg cgataagtc 300
cgcattgggtg tcgttagttt gcaaacggga tatagccccgg cctattctgg gggcgttact 360
tt 362

<210> 197
<211> 362
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 197

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccacaaagag cgataacggg 120
ctaaacacta ggcctttggc tttgagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggatt ggtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtc 300
cgcattggtg tcgttagtt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 198

<211> 362

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 198

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccacaaagag cgataacggg 120
ctaaacacta ggcctttggc tttcagcggc gttacagata aagtcaatat caacaagctc 180
actacatctg ccactaacgt gaacattaaa aactttgaca ttaaggatt ggtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtc 300
cgcattggtg tcgtgagtt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 199

<211> 362

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 199

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccacaaagag cgataacggg 120
ctaaacacta gcaactttggc ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggatt ggtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgatcagtc 300
cgcattggtg tcgtgagtt gcaaacggga tatagcccg cttattctgg gggcgttact 360
tt 362

<210> 200

<211> 362

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 200

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agagtgaatg gccatagcgc tcatttaaa aatattgatg cttagtaagag cgataacggg 120
ctaaacacta ggcctttggc ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggatt ggtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtc 300
cgcattggtg tcgtgagtt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 201
<211> 2
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 201
wc 2

<210> 202
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 202
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta gtgcttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgtgagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 203
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 203
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta gtgcttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgtgagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 204
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 204
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta gtgcttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgtgagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360

<210> 205
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 205
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agagtgaatg cccatagcgc tcatttaaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta gtgcttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcatgggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 206
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 206
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccacaaagag cgataacggg 120
ctaaacacta gogcttggg ttttagtggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcatgggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 207
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gtgcttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcatgggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 208
<211> 362
<212> DNA
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<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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ctaaacacta gcgcttggg ttttagcggc gttacagaca aagtcatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aacttgaca ttaaggaatt agtggttaca 240
accctgttc agagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggg tgcttagttt gcaaactggg tatagccgg cctattctgg gggcgtaact 360
tt 362

<210> 209
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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aaagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gcgcttggg ttttagcggc gttacagaca aagtcatat caacaagctc 180
actacagctg ccactaatgt gaacattaaa aacttgaca ttaaggaatt ggtggttacg 240
accctgttc agagtttgg acaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggg tgcttagttt gcaaactggg tatagccgg cttattctgg gggcgtaact 360
tt 362

<210> 210
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
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agggtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gtccttggg tttcagtggc gttacagaca aagtcatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aacttgaca ttaaggaatt ggtggttaca 240
accctgttc agagtttgg gcaatacact atttttggcg aaattataagg cgataagtct 300
cgcattggg tgcttagttt gcaaactggg tatagccgg cttattctgg gggcgtaact 360
tt 362

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<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 211
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gtgccttggg ttttagcggc gttacagata aagtcatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aacttgaca ttaaggaatt ggtggttaca 240
accctgttc aaagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggg tgcttagttt gcaaactggg tatagccgg cttattctgg gggcgtaact 360
tt 362

<210> 212

<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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aaagtgaatg gccatagcgc tcatttaaa aatattgatg ccacaagag cgataacggg 120
ctaaacacta gcgcggg tttgagtcg gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
accctgttc agagtttgg gcaatacact attttggcg aaaatataagg cgataagtct 300
cgcattggg tgcgttagttt gcaaacggg tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 213
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

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aaagtgaatg gccatagcgc tcatttaaa aatattgatg ccagaagag cgataatgg 120
ctaaacacta gtgcggg tttgagcggc gttacagaca aagtcaatat caacaagctc 180
actacagctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttacg 240
accctgttc agagtttgg gcaatacact attttggcg aaaatataagg agatcaatcg 300
cgcattggg tgcgttagttt gcaaactggc tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 214
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 214
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aaagtgaatg gccatagcgc tcatttaaa aatattgatg ccactaagag cgataatgg 120
ctaaacacta gcgcggg tttgagcggc gttacaaaca aggtcaatat caacaagctc 180
actacagctg ccactaatgt gtccattaaa aactttgaca ttaaggaatt agtggttacg 240
accctgttc agagtttgg gcaatacact attttggcg aaaatataagg cgatcaatcg 300
cgcattggg tgcgttagttt gcaaactggc tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 215
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 215
gtggatgctc atacggctaa cttaatggc aatgtttatc tggaaaatc cacgaattta 60
agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120

ctaaacacta ggcgtttgga ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt ggtggttaca 240
accctgttc agagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcattggtg tcgttagtt gcaaacggga tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 216

<211> 362

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 216

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta ggcgtttgga ttttagcggc gttacagata aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
accctgttc agagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcattggtg tcgtgagtt gcaaacggga tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 217

<211> 362

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 217

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ctatgtaaagag cgataacggg 120
ctaaacacta ggcgtttgga ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggaatt agtggttaca 240
accctgttc agagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcattggtg tcgtgagtt gcaaacggga tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 218

<211> 362

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 218

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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta ggcgtttgga tttcagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgacg ttaaggaatt ggtggttaca 240
accctgttc agagtttgg gcaatacact atttttggcg aaaatatagg cgataagtct 300
cgcattggtg tcgtgagtt gcaaacggga tatagcccg cctattctgg gggcggtact 360
tt 362

<210> 219

<211> 362

<212> DNA

<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 219
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagaagag cgataacggg 120
ctaaacacta gcactttgga ttttagcggc gttacagata aagtcaatat caacaagctc 180
actacagctg ccactaatgt gaacgttaaa aactttgaca ttaaggaatt agtggttaca 240
acccgagttc aaagtttgg gcaatacact atttttggcg aaaatataagg cgataagtc 300
cgcatttggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgtaact 360
tt 362

<210> 220
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 220
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gcgctttgga ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggaatt agtggttaca 240
acccggttgc agagtttgg gcaatacact atttttggcg aaaatataagg cgataagtc 300
cgcatttggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgtaact 360
tt 362

<210> 221
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 221
gtggatgctc atacagctta tttaatggc aatatttatt tggaaaatc cacgaattta 60
agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gtgctttgga ttttagcggc gttacagata aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggaatt ggtggttaca 240
acccgagttc aaagtttgg gcaatacact atttttggcg aaaatataagg cgataagtc 300
cgcatttggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgtaact 360
tt 362

<210> 222
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 222
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agattgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gcgctttgga ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggaatt ggtggttaca 240
acccgagttc agagtttgg gcaatactt atttttggcg aaaatataagg cgataagtcg 300

cgcattggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 223
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 223
gtggacgctc atacagctta ttttaatggc aatatttatt tggaaaatc cacgaattta 60
agagtgaatg gccatagcgc tcattttaaa aatattgtg ccacaaagag cgataacggg 120
ctaaacacta gcactttgga tttgagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttacg 240
accctgttcc agagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 224
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 224
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agagtgaatg gccatagcgc tcattttaaa aatattgtg ccacaaagag cgataacggg 120
ctaaacatta gcactttgga ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttaca 240
accctgttcc agagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 225
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 225
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agagtgaatg gccataacgc tcattttaaa aatattgtg ccagtaagag cgataacggg 120
ctaaacacta gcactttgga tttgagcggc gttacagaca aagtcaatat caacaagctc 180
actacagctg ccactaatgt gaacattaaa aactttgaca ttaaggaatt agtggttacg 240
accctgttcc agagtttgg gcaatacact atttttggcg aaaatataagg tgataagtct 300
cgcattggtg tcgttagttt gcaaacggga tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 226
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 226
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagttagag cgataacggg 120
ctaaacacta gcgcttggg ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgaca ttaaggaatt ggtggttacg 240
acccggttcc agagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgttagttt gcaaacggg tgcgtccccc cctattctgg gggcgttact 360
tt 362

<210> 227
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 227
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agagtgaatg gccatagcgc tcatttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gcytttggg ttttagcggc gttacagaya aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacrttaaa aactttgaya ttaaggaatt ggtggttaca 240
acccgagtcc aaagtttgg gcaatacact atttttggcg aaaatataagg cgatmagtct 300
cgcattggtg tcgttagttt gcaaacggg tatagcccc cctattctgg gggcgttact 360
tt 362

<210> 228
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 228
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agagtgaatg gcatagcgc tcatttaaa aatattgatg ccacaaagag cgataatgt 120
ataaaacacta gcactttggg tttagcggc gttacagaca aggtcaatat caacaagctc 180
attacagctt ccactaatgt gaacattaaa aactttgaca ttaaggaatt ggtggttaca 240
acccggttcc aaagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgttagttt gcaaacggg tatagcccc cctattctgg gggcgttact 360
tt 362

<210> 229
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 229
gtggatgctc atacggctaa cttaatggc aatatttattc tggaaaatc cacgaattta 60
agagtgaatg gcatagcgc tcattttaa aatattgatg ccagcaagag cgataacggg 120
ctaaacacta gcaccttggg tttcagcggc gttacagaca aagtcaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aactttgata ttaaggaatt ggtggttaca 240
acccgagtcc agagtttgg gcaatacact atttttggcg aaaatataagg cgataagtct 300
cgcattggtg tcgttagttt gcaaacggg tatagcccc cttattctgg gggcgttact 360
tt 362

<210> 230
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 230
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agagtgaatg gccatagcgc tcattttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta gcgcttggg ttttagcggc gttacagaca aagtaatat caacaagctc 180
actacatctg ccactaatgt gaacgttaaa aacttgaca ttaaggaatt ggtggttaca 240
acccgagttc aaagtttgg gcaatacact attttggcg aaaatataagg cgataagtct 300
cgcattggg tgctgagttt gcaaacggg tatagccctg cttattctgg gggcgttact 360
tt 362

<210> 231
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 231
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agagtgaatg gccatagcgc tcattttaaa aatattgatg ccagtaagag cgataacggg 120
ctaaacacta ccactttggg tttcagcggc gttacagata aagtcataat caacaagctc 180
actacatctg ccactaatgt gaacattaaa aacttgaca ttaaggaatt agtggttaca 240
acccgagttc agagtttgg gcaatacact attttggcg aaaatataagg cgataagctg 300
cacattggg tgctgagttt gcaaacggg tatagccctg cttattctgg gggcgttact 360
tt 362

<210> 232
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 232
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aaagtgaatg gccatagcgc tcattttaaa aatattgatg ctagtaagag cgataacggg 120
ctaaacacta gcgcttggg tttgagcggc gttacaaaca aggtcaatat caacaagctc 180
actacagctg ccactaatgt gaacattaaa aacttgaca ttaaggaatt ggtggttaca 240
acccgcgttc agagtttgg gcaatacact attttggcg aaaatataagg cgataagtcg 300
cgcattggg tgcttagttt gcaaactggc tatagccctg cttattctgg gggcgttact 360
tt 362

<210> 233
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 233
atggatgctc atacagctta tttaatggc aatatttattc tggaaaatc cacgaattta 60

aaagtgaatg gccatagcgc tcatttaaa aatattgatg ccactaagag cgataatgg 120
ctaaacacta gcgcgttgg tttgagcggc gttacaaaca aggtcaatat caacaagctc 180
actacagctg ccactaatgt gtccattaaa aactttgaca ttaaggaatt agtggttacg 240
accctgttc agagtttgg gcaatacact attttggcg aaaatataagg cgatcaatcg 300
cgcattggt tcgttagtt gcaaactggc tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 234
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 234
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aaagtgaatg gccatagcgc tcatttaaa aatattgatg ccactaagag cgataatgg 120
ctatacacta gcgcgttgg tttgagcggc gttacaaaca aggtcaatat taacacgctc 180
actacagctg ccactaatgt gtccattaaa aactttgaca ttaaggaatt agtggttacg 240
accctgttc agagtttgg gcaatacact attttggcg aaaatataagg cgatcaatcg 300
cgcattggt tcgttagtt gcaaactggc tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 235
<211> 362
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 235
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aaagtgaatg gtcatacagg caatttaaa gatattgatg ccagcaaggg tagaaatgg 120
atcgacacca ccattttgg ttttagcggc gttacaaaca aggtcaatat caacaagctc 180
accacagctg ccactaatgc ggccattaaa aattttgaca ttaaggaatt gttgttaca 240
accaatgttt tgagtgtgg gaaatacact gatTTTACCG aagatataagg cgatcaatcc 300
cgcattggta tcgtgcgtt gcaaatggg tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 236
<211> 362
<212> DNA .
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 236
gtggatgccc atacgatcaa tttaatggc aatatgtatt tggaaagatt cacgcattta 60
aaagtgaatg gtcatacagg caatttaaa gatattgatg ccagcaaggg tagaaatgg 120
atcgacacca ccattttgg ttttagcggc gttacaaaca aggtcaatat caacaagctc 180
accacagctg ccactaatgc ggccattaaa aattttgaca ttaaggaatt gttgttaca 240
accaatgttt tgagtgtgg gaaatacact gatTTTACCG aagatataagg cgatcaatcc 300
cgcattggta tcgttagtt gcaaacggg tatagcccg cctattctgg gggcgttact 360
tt 362

<210> 237
<211> 362
<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 237

gtggatgccc atacgatcaa tttaatggc aacatgtatt tgggaagatt cacgcattta 60
aaagtgaatg gccatacagc caatttaaa gatattgatg ccagcaaggg tagaaatgt 120
atcgacacca ctatttgga ttttagcggc gttacagaca aagtcaatat caacaagctc 180
actacagctg ccaactaatgt gtccattaaa aactttgaca ttaaggaaatt gggttgtaca 240
accaatgttt tgagtgtggg gaaatacact gatTTTaccg aagatatagg cgatcaatcg 300
cacattggtg tcgttagttt gcaaactggc tatagccccg tctattctgg gggcgttact 360
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<210> 238

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 238

gtggatgctc atacagctaa tttaaagggt attgatacgg gtaatggtgg tttcaacacc 60
ttagatttttta gtgggtttac aggttaaggc aatatacaca agctcattac ggcttccact 120
aatgtggccg taaaaaaactt caacattaaat gaattgattt ttaaaaaccaa tgggtgtgagt 180
gtggggaaat acactcattt tagcgaagat ataggcagtc aatcgcgcatt caataaccgtg 240
cgtttggaaa ctggcacttag gtcaatctt tctggcggtg ttaaattt 288

<210> 239

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 239

gtggatgctc atacagctaa tttaaagggt attgatacgg gtaatggtgg tttcaacacc 60
ttagatttttta gtgggtttac aggttaaggc aatatacaca agctcattac ggcttccact 120
aatgtggccg taaaaaaactt caacattaaat gaattgattt ttaaaaaccaa tgggtgtgagt 180
gtggggaaat acactcattt tagcgaagat ataggcagtc aatcgcgcatt caataaccgtg 240
cgtttggaaa ctggcacttag gtcaatctt tctgggggtg ttaaattt 288

<210> 240

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 240

gtggatgctc atacagctaa tttaaagggt attgatacgg gtaatggtgg tttcaacacc 60
ttagattttta gtgggtttac aggttaaggc aatatacaca agctcattac ggcttccact 120
aatgtggccg taaaaaaactt caacattaaat gaattgattt ttaaaaaccaa tgggataagt 180
gtggggaaat acactcattt tagcgaagat ataggaaatgc aatcgcgcatt caataaccgtg 240
cgtttggaaa ctggcacttag atcaatctt tctgggggtg ttaaattt 288

<210> 241

<211> 288

<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 241
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ttagattta gtggcgttac agacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca ttaaaaactt caacattaat gaattgttg ttaagaccaa tgggtgagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 242
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 242
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtggcgttac agacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca ttaaaaactt caacattaat gaattgttg ttaagaccaa tgggtgagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctgggggtg ttaaattt 288

<210> 243
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 243
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtggcgttac aggttaaggc aatatcaaca agctcattac ggcttccact 120
aatgtggccg ttaaaaacaa caacattaat gaattgttg ttaaaccacaa tggataagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa caggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 244
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 244
gtggatgctc atacagctaa ttttaaagg attgatactg gtaatggtgg tttcaacacc 60
ttagattta gtggcgttac aaacaaaggc aatatcaaca agctcattac agcttccact 120
aatgtggccg ttaaaaactt caacattaat gaattgttg ttaagattaa tgggtgagc 180
gtggggaaat acacttattt tagcgaagat ataggcagtc aatcgcat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 245
<211> 288
<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 245

gtggatgctc atacagctaa ttttaaagg attgatactg gtaatggtgg tttcaacacc 60
ttagatttca gtgggttac agacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca taaaaaactt caacattaat gaattggtgg taaaaccaa tggtataagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 246

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 246

gtggatgctc atacagctaa ttttaaagg attgatactg gtaatggtgg tttcaacacc 60
ttagatttca gtgggttac agacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca taaaaaactt caacattaat gaattggtgg taaaaccaa tggtataagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 247

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 247

gtggatgccc atacagctaa ttttaaagg attgatactg gtaatggtgg tttcaacacc 60
ttagatttca gtggcgttac aaacaaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca taaaaaactt caacattaat gaattggtgg taaaaccaa tggtataagc 180
gtggggaaat acactaattt tagcgaagat ataggcagtc aatcgcat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 248

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 248

gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagatttta gtgggttac aggttaaggc aatatcaaca agctcattac agcttccact 120
aatgtggccg taaaaaactt caacattaat gaattgattt taaaaccaa tggggtgagt 180
gtggggaaat acactcattt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 249

<211> 288

<212> DNA

<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 249
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aggttaaggc aatatcaaca agctcatcac agcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaacccaa tgggtgagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgccat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 250
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 250
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aggttaaggc aatatcaaca agctcatcac agcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaacccaa tgggtgagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgccat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat tctggcggtg ttaaattt 288

<210> 251
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 251
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aggttaaggc aatattaaca agctcattac ggcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaacccaa tgggtgagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgccat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg ttaaattt 288

<210> 252
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 252
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggtgtac aggtatagtc aatatcaaca agctcatcac agcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaacccaa tgggtgagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgccat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 253
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 253
gtggatggtc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aggttaaggc aatatcaaca agctcataac ggcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaaccaa tggtgtgagt 180
gtggggaaat acacttattt tagcgaagat ataggcagtc aatcgacat caataccgtg 240
cgtttgaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 254
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 254
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aggttaaggc aatatcaaca agctcattac ggcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaaccaa tggtgtgagt 180
gtggggaaat acacttattt tagcgaagat ataggcagtc aatcgacat caataccgtg 240
cgtttgaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 255
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 255
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac agacaaagtc aatatcaaca agctcatcac agcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaaccaa tgggtgagt 180
gtggggaaat acactcattt tagcgaagat ataggcagtc aatcgacat caataccgtg 240
cgtttgaaa ctggcaccag gtcaatctt tctgggggtg tcaaattt 288

<210> 256
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 256
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac agacaaagtc aatatcaaca agctcattac ggcttccact 120
aatgtggccg taaaaactt caacattaat gaattgattt taaaaccaa tgggtgagt 180
gtggggaaat acactcattt tagcgaagat ataggcagtc aatcgacat caataccgtg 240
cgtttgaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 257
<211> 288
<212> DNA
<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 257

gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac agacaaagtc aatatcaaca agctcattac agcttccact 120
aatgtggccg taaaaaactt caacattaat gaattggtg taaaaccaa tgggtaagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 258

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 258

gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aaacaaggc aatatcaaca agctcattac ggcttccact 120
aatgtggcca taaaaaactt caacattaat gaattgattt taaaaccaa tgggatgagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 259

<211> 288

<212> DNA

<213> Artificial Sequence

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<223> Helicobacter pylori vacA nucleic acid sequence

<400> 259

gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aaacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggccg taaaaaactt caacattaat gaattgattt taaaaccaa tggggtgagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 260

<211> 288

<212> DNA

<213> Artificial Sequence

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<223> Helicobacter pylori vacA nucleic acid sequence

<400> 260

gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagattta gtgggttac aaacaaggc aatatcaaca agctcattac ggcttccact 120
aatgtggccg taaaaaactt caacattaat gaattgattt taaaaccaa tggggtgagc 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttggaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 261

<211> 288

<212> DNA

<213> Artificial Sequence

<220>

<223> Helicobacter pylori vacA nucleic acid sequence

<400> 261
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ttggatttta gtggcggtac agacaaaagtc aatatcaaca agctcattac agcttccact 120
aatgtggcca ttaaaaactt caacattaat gaattgttgg ttaagaccaa tggggtgagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caacaccgtg 240
cgtttagaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 262
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 262
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagatttta gtgggttac aggttaaggc aatatcaaca agctcattac ggcttccact 120
aatgtggccg ttaaaaactt caacattaat gaattgttgg ttaagaccaa tggggtgagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttgaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 263
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 263
gtggatgctc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttcaacacc 60
ttagatttta gtgggttac aggttaaggc aatatcaaca agctcattac ggcttccact 120
aatgtagccg ttaaaaactt caacattaat gaattgttgg ttaagaccaa tggggtgagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caacaccgtg 240
cgtttgaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 264
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 264
gtggatggtc atacagctaa ttttaaagg attgatacgg gtaatggtgg tttccacacc 60
ttagatttta gtgggttac aggttaaggc catatccaca agctcattac ggcttccact 120
aatgtggccg ttaaaaactt ccacattaat gaattgattt gtaaaaccaa tgggataagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttgaaa ctggcactag gtcaatctt tctgggggtg tcaaattt 288

<210> 265
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 265
gcgagcgctc atacggtaaaatgtataactg gtaatgggtgg tttcaacacc 60
ttagatttta gtgggttac aaacaaggtaa aatatcaaca agctcattac agcttccact 120
aatgtggcca ttaaaaactt caacattaat gaattgttgg ttaaaaccaa tgggataagt 180
gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caacaccgtg 240
cgtttggaaa ctggcaccag gtcaatctat ttgggggtg ttaaaattt 288

<210> 266
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 266
gcgagcgctc atacggtaaaatgtataactg gtaatgggtgg tttcaacacc 60
ttagacttta gtgggttac aaacaaggtaa aatatcaaca agctcattac agcttccact 120
aatgtggccg ttaaaaactt caacattaat gaattgttgg ttaaaaccaa tgggataagt 180
gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat ttgggggtg ttaaaattt 288

<210> 267
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 267
gcgagcgctc atacggtaaaatgtataactg gtaatgggtgg tttcaacacc 60
ttagacttta gtgggttac aaacaaggtaa aatatcaaca agctcattac agcttccact 120
aatgtggcca ttaaaaactt caacattaat gaattgttgg ttaaaaccaa tgggataagt 180
gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caacaccgtg 240
cgtttagaaa ctggcactag gtcaatctat ttgggggtg ttaaaattt 288

<210> 268
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 268
gcgagacgtc atacggtaaaatgtataactg gtaatgggtgg tttcaacacc 60
ttagatttta gtgggttac aaacaaggtaa aatatcaaca agctcattac agcttccact 120
aatgtggccg ttaaaaactt caacattatgttgg ttaaaaccaa tgggataagt 180
gtggggaaat acactaattt tagcggagat ataggcaatc aatcgcat caacaccgtg 240
cgtttggaaa ctggcactag gtcaatctat ttgggggtg ttaaaattt 288

<210> 269
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 269

gtggatgccc atacggtcaa ttttaaaggt attgatactg gtaatggtgg tttcaacacc 60
ttagatttca gtgggttac agacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca taaaaaactt caacattaat gaattggtgg taaaaaccaa tggataagt 180
gtggggaaat acactcatt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttagaaa ctggcactag gtcaatctat tctggcggtg ttaagttt 288

<210> 270
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 270
gcgagcgctc atacggtcaa ttttaaagat attgatactg gtaatggtgg tttcaacacc 60
ttagacttta gtgggttac aaacaaggc aatatcaaca aactcattac agcttccact 120
aatgtggccg taaaaaactt caacattaat gaattgttg taaaaaccaa tggataagt 180
gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caacaccgtg 240
cgtttagaaa ctggcaccag gtcaatctat tctgggggtg ttaagttt 288

<210> 271
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 271
gcgagcgctc atacggtcaa ttttaaagat attgatactg gtaatggtgg tttcaacacc 60
ttagacttta gtgggttac aaacaaggc aatatcaaca aactcattac agcttccact 120
aatgtggccg taaaaaactt caacattaat gaattgttg taaaaaccaa tggataagt 180
gtggggaaat acactaattt tagcgaagat ataggcagtc aatcgcat caataccgtg 240
cgtttagaaa ctggcaccag gtcaatctat tctgggggtg ttaagttt 288

<210> 272
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 272
gcgagcgctc atacggtcaa ttttaaagat attgatactg gtaatggtgg tttcaacacc 60
ttagatttca gtgggttac aaacaaggc aatatcaaca agctcattac agcttccact 120
aatgtggcca taaaaaactt caacattaat gaattgttg taaaaaccaa tggataagt 180
gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caataccgtg 240
cgtttagaaa ctggcactag gtcaatctat tctgggggtg ttaagttt 288

<210> 273
<211> 288
<212> DNA
<213> Artificial Sequence

<220>
<223> Helicobacter pylori vacA nucleic acid sequence

<400> 273
gcgagcgctc atacggtcaa ttttaaagat attgatactg gtaatggtgg tttcaacacc 60

ttagattta gtgggttac aaacaaggc aatatcaaca agctcattac agcttccact 120
 aatgtggccg taaaaactt caacattaat gaattgttg taaaaccaa tgggataagt 180
 gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caacaccgtg 240
 cgtttagaaa ctggcactag gtcaatctat tctgggggtg ttaagttt 288

<210> 274
 <211> 288
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Helicobacter pylori vacA nucleic acid sequence

<400> 274
 gcgagcgctc atacggtcaa ttttaaagat attgatactg gtaatggtgg tttcaacacc 60
 ttagactta gtgggttac aaacaaggc aatatcaaca agctcattac agcttccact 120
 aatgtggccg taaaaactt caacattaat gaattgttg taaaaccaa tgggataagt 180
 gtggggaaat acactaattt tagcgaagat ataggcaatc aatcgcat caacaccgtg 240
 cgtttagaaa ctggcactag gtcaatctat tctgggggtg ttaaattt 288

<210> 275
 <211> 288
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Helicobacter pylori vacA nucleic acid sequence

<400> 275
 gcgagcgctc atacggtcaa ttttaaagat attgatactg gtaatggtgg tttcaataacc 60
 ttagactta gtgggttac aaacaaggc aatatcaaca agctcattac agcttccact 120
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 aatgtggcca taaaaactt caacattaat gagttgttg taaaaccaa tgggataagt 180
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